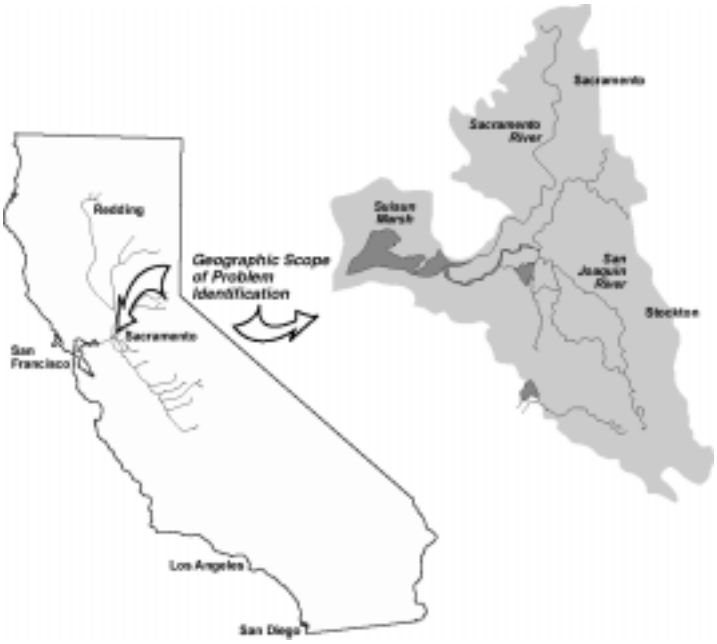
CALFED PROGRAM SUMMARY

Introduction

The San Francisco Bay/Sacramento-San Joaquin Delta Estuary (the Bay-Delta) is a region of critical importance to California. It is the hub of the State's water supply system, and an area of unsurpassed ecological importance for salmon, migratory waterfowl, and a host of other plants and animals. California's growing population has put increasing demands on the Bay-Delta, and today it is an area beset by problems. Since 1995 State and Federal agencies with regulatory or management responsibility in the Bay-Delta have been working together to solve the region's problems in a balanced way that offers benefits for all interests. The product of this effort is a draft CALFED Plan to solve the interrelated problems of the Bay-Delta.

This Program Summary provides a brief background of problems in the Bay-Delta, describes the Plan CALFED has developed to solve Bay-Delta problems, and outlines future steps the Program will take to implement a Bay-Delta solution.



Setting

The Bay-Delta is the largest estuary on the West Coast, a haven for plants and wildlife, supporting over 750 plant and animal species. It supplies drinking water for two-thirds of the people in California and irrigation water for over 7 million acres of the most productive agricultural land in the world.

The Bay-Delta is the hub of California's two largest water distribution systems – the Central Valley Project (CVP) operated by the U.S. Bureau of Reclamation, and the State Water Project (SWP) operated by the California Department of

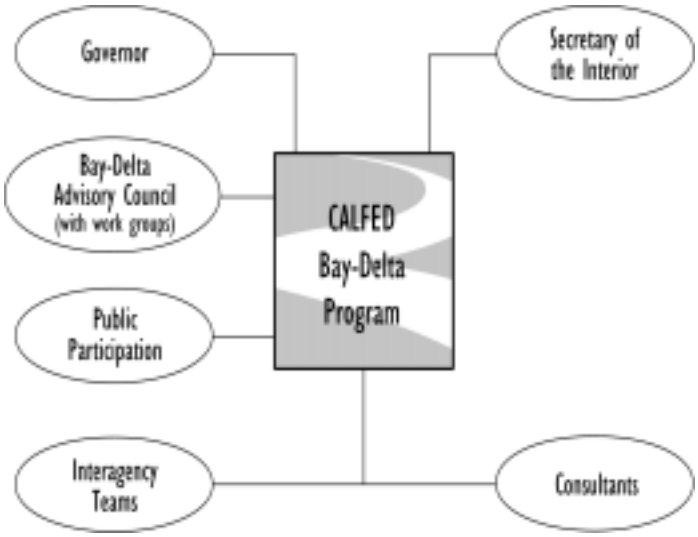
Geographic Scope for Problems & Solutions

The geographic **scope for the problems** consists of the legally defined Delta, Suisun Bay (extending to the Carquinez Strait) and Suisun Marsh.

The geographic **scope for developing possible solutions** includes a much broader area that extends both upstream and downstream of the Bay-Delta. This solution scope includes the Central Valley watershed, the Southern California water system service area, San Pablo Bay, San Francisco Bay, near-shore portions of the Pacific Ocean out to the Farallon Islands and north to the Oregon border, and the Trinity River watershed, from which flows are diverted into the Bay-Delta system.

Water Resources. In addition to these two major projects, over 7,000 permitted diverters have developed water supplies from the watershed feeding the Bay-Delta estuary. These diversions, along with the introduction of exotic species, water pollution and numerous other factors have had a serious impact on the fish and wildlife resources of the estuary. For decades, the system has struggled to meet the competing demands of the environment and water users, while maintaining good water quality and a levee system that protects local towns and infrastructure from flooding and contaminating the State's water supply. Today, the system is not adequately meeting any of these needs.

The CALFED Process



The CALFED Bay-Delta Program, a cooperative State and Federal effort, was established to reduce conflicts in the system by solving problems in ecosystem quality, water quality, water supply reliability, and levee and channel integrity. Its mission is to develop a long-term comprehensive plan that will restore ecological health and improve water management for beneficial uses of the Bay-Delta system. It is comprised of State and Federal agencies with management or regulatory responsibilities for the Bay-Delta.

In addition to the CALFED agencies, representatives of agriculture, urban areas, environment, fishing, business and rural counties have contributed to the process. The Bay-Delta Advisory Council (BDAC), a federally chartered citizens' advisory committee with over 30 members, provides formal comment and advice to the agencies during regularly scheduled public meetings.

Outreach Activities

The CALFED Program has maintained a strong commitment to public outreach and involvement. CALFED has included members of the public in the development of every program component, from ecosystem restoration to financing. CALFED has held hundreds of scoping meetings, technical workshops, public information meetings, and public BDAC workgroup meetings. The Program publishes several newsletters and information booklets, and supports a web site and toll-free public information telephone line.

Where to Find Information

- CALFED web site, *http:\\calfed.ca.gov*
- Toll-free public information line, (800)700-5752)
- EIS/EIR information line, (800)900-3587
- CALFED newsletters and publications available from CALFED Bay-Delta Program, 1416 Ninth St., Ste. 1155, Sacramento, CA 95814.
- BDAC and other public meetings

The CALFED agencies are committed to fulfilling their responsibilities to consult with the sovereign tribes that will be affected by the CALFED Program. Although there are no federally recognized tribes in the Delta, CALFED will actively engage the tribes in the Bay-Delta watershed as specific projects in these areas develop and will hold consultations open to all tribes during 1999. A tribal representative was appointed to BDAC in June 1999.

CALFED AGENCIES

State Agencies

Resources Agency of California
- Department of Water Resources
- Department of Fish and Game

California Environmental Protection Agency
- State Water Resources Control Board

California Department of Food and Agriculture

Federal Agencies

U.S. Department of the Interior
- Bureau of Reclamation
- Fish and Wildlife Service
- Bureau of Land Management
- U.S. Geological Survey

U.S. Army Corps of Engineers

U.S. Environmental Protection Agency

U.S. Department of Commerce
-National Marine Fisheries Service

U.S. Department of Agriculture
- Natural Resources Conservation Service
- U.S. Forest Service

Western Area Power Administration

MISSION STATEMENT, OBJECTIVES AND SOLUTION PRINCIPLES

The mission of the CALFED Bay-Delta Program is to develop a long-term comprehensive plan that will restore ecological health and improve water management for beneficial uses of the Bay-Delta system.

CALFED developed the following objectives for a solution:

- Provide good water quality for all beneficial uses;
- Improve and increase aquatic and terrestrial habitats and improve ecological functions in the Bay-Delta to support sustainable populations of diverse and valuable plant and animal species;
- Reduce the mismatch between Bay-Delta water supplies and current and projected beneficial uses dependent on the Bay-Delta system;
- Reduce the risk to land use and associated economic activities, water supply, infrastructure and the ecosystem from catastrophic breaching of Delta levees.

In addition, any CALFED solution must satisfy the following **solution principles**:

- ***Reduce Conflicts in the System*** Solutions will reduce major conflicts among beneficial uses of water.
- ***Be Equitable*** Solutions will focus on solving problems in all problem areas. Improvements for some problems will not be made without corresponding improvements for other problems.
- ***Be Affordable*** Solutions will be implementable and maintainable within the foreseeable resources of the Program and stakeholders.
- ***Be Durable*** Solutions will have political and economic staying power and will sustain the resources they were designed to protect and enhance.
- ***Be Implementable*** Solutions will have broad public acceptance and legal feasibility, and will be timely and relatively simple to implement compared with other alternatives.
- ***Have No Significant Redirected Impacts*** Solutions will not solve problems in the Bay-Delta system by redirecting significant negative impacts, when viewed in their entirety, within the Bay-Delta or to other regions of California.

Background

For decades, the Bay-Delta has been the focus of competing interests – economic and ecological, urban and agricultural. These conflicting demands have resulted in several resource threats to the Bay-Delta: the decline of wildlife habitat; the threat of extinction of several native plant and animal species; the collapse of one of the richest commercial fisheries in the nation; the degradation of Delta water quality; the continued land subsidence on Delta islands; and a Delta levee system faced with a high risk of failure.

CALFED has identified four basic problem areas: ecosystem quality, water supply reliability, levee system integrity, and water quality. These problems – and their solutions – are interrelated. Single-purpose efforts to solve problems in the past have failed to adequately address the comprehensive nature of the Bay-Delta resources and problems, and the conflicts between supply and demand.

Conflicts in the Bay-Delta system are compounded by California's hydrology. Any consideration of water management in California must recognize the immense variability in the availability of and demands for water. The total amount of precipitation and runoff in the Bay-Delta watershed varies widely from month to month and year to year. Even within a month, flow can vary widely. Droughts and floods are part of the "normal" water cycle in California.

The demand for water also varies over time. Agricultural demands tend to be higher than average in dry years because there is less precipitation available and plants need more irrigation. Surface supplies may be limited in dry years, which imposes further demands on local groundwater and on imported water.

Urban areas can experience similar seasonal variations because of landscaping irrigation. Also, urban areas dependent on the Bay-Delta for drinking water place a significant premium on the quality of the water. In dry years and seasons, increased salinity in the Bay-Delta (from both salt water intrusion and upstream discharges) reduces the usefulness of Bay-Delta water to urban users.

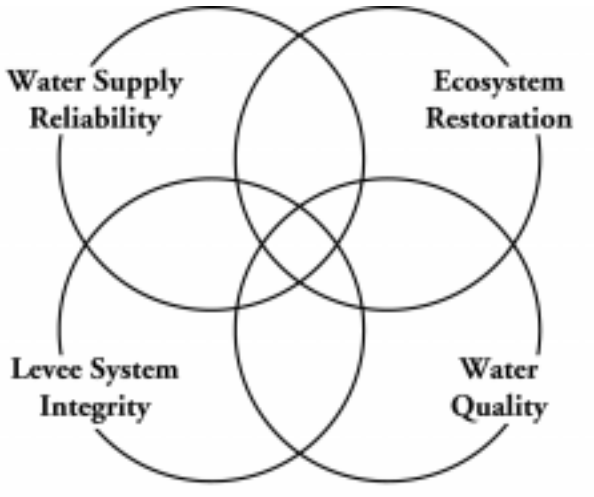
While ecosystem demands are generally more consistent with the natural seasonal flow pattern than urban and agricultural users, historic changes in the system have resulted in circumstances where existing flows are low during times of high ecosystem need.

The CALFED Program Plan

The CALFED Program began work on developing a long-term plan for fixing the Bay-Delta in May 1995. In cooperation with environmental, urban and agricultural interests, CALFED developed potential alternative solutions that were released in a draft programmatic Environmental Impact Statement/Environmental Impact Report (EIS/EIR) in March 1998. Several thousand comments on the alternatives were received through a 105-day public comment period. In conjunction with extensive additional technical analyses, these comments were used to develop the draft Preferred Program Alternative outlined in the June 1999 Draft Programmatic EIS/EIR.

The CALFED Preferred Program Alternative is a 30-year plan to restore Bay-Delta ecosystem health, improve water supply reliability, improve water quality, and protect Delta levees. It is called a "program" or "programmatic alternative" because it is very broad in nature and includes hundreds of actions that will be taken throughout the Bay-Delta watershed and beyond over a period of several decades. Initially, the focus of implementation will be on the first seven years, referred to as Stage 1 of implementation.

The most significant aspect of the CALFED Program Plan is its comprehensive nature. Instead of attempting to solve any single problem in the Bay-Delta, CALFED has started with the recognition that many of the Bay-Delta's resource problems are interrelated, so the most successful solution will be one that addresses multiple problems. The CALFED Plan begins with strategies for solving each of the four Bay-Delta problem areas in an integrated manner. These strategies are interwoven and each must be viewed in the context of the other strategies. For example, to fully implement the ecosystem restoration strategy, CALFED must also have a successful strategy to provide the improved water quality that is needed by the ecosystem. The levee strategy provides new opportunities for improving levee-associated habitat for Delta species. Also, water for environmental uses will benefit from improved water supply reliability.

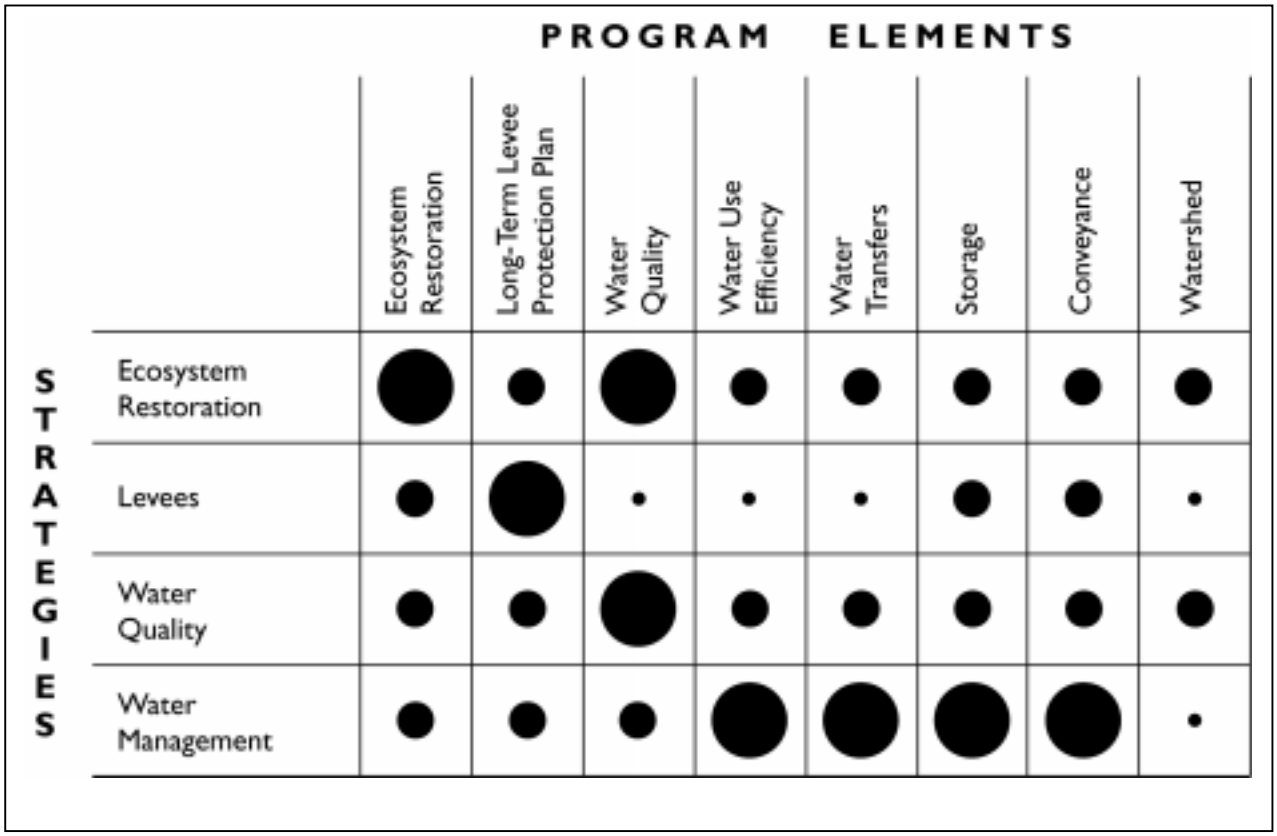


CALFED has identified eight categories of actions that contribute to carrying out the strategies. Each of these categories, or program elements, includes many actions that will solve problems simultaneously in two or more problem areas. In the diagram above, the area of overlap among the circles represents this opportunity for single actions to contribute to the solution of two or more Bay-Delta problems. Fulfilling the CALFED mission statement and meeting its goals are dependent on improvements in all problem areas. The program elements and linkages between them are the mechanisms to achieve improvement in the four problem areas.

Resource Management Strategies for the Four Problem Areas

Ecosystem Restoration Strategy

CALFED's ecosystem restoration program is the largest, most comprehensive, and most inclusive environmental restoration program in the United States. It provides a new perspective to restoration science by focusing on the rehabilitation, protection or restoration of ecological processes that create and maintain habitats needed by fish, wildlife and plant species dependent on the Delta and its tributary systems. By restoring the natural processes that create and maintain diverse and vital habitats, CALFED aims to meet the needs of multiple plant and animal species while reducing the amount of human intervention required to maintain habitats.



All CALFED program elements will contribute in varying degrees to the ecosystem restoration strategy. Ecosystem restoration actions, such as restoration of habitat in the Delta or along rivers upstream of the Delta, will be central to program success. Other actions will complement or support ecosystem restoration. For example, water use efficiency measures can reduce water demands and diversions from the Bay-Delta system, which will improve streamflow. Transfers of water between two users in the Delta export area may reduce the need to pump water from the Delta.

Many entities have expressed concerns about the effects of the CALFED Program – especially ecosystem restoration and levee improvement actions – on agricultural land. CALFED seeks to preserve as much agricultural land as possible, consistent with meeting all program goals. The government already owns some of the land needed for program implementation, and that land

will be used when appropriate. Partnerships with landowners, including easements with willing landowners, will be pursued when appropriate and when suitable government land is not available. Acquisition of fee title to land for ecosystem restoration will be from willing sellers only, and will be used when neither available government land nor partnerships are appropriate or cost-effective for the specific need. Third-party impacts of such actions will be carefully evaluated and taken into consideration.

Water Quality Improvement Strategy

CALFED is committed to achieving continuous improvement in the quality of waters of the Bay-Delta estuary with the goal of minimizing ecological, drinking water, and other water quality problems, and to maintaining that quality once achieved. This objective extends to the watersheds of the estuary to the extent that water quality problems in these watersheds affect beneficial uses dependent on the estuary. Although there may be short-term fluctuations in water quality brought about by wet or dry hydrologic conditions or other short-term events, the CALFED objective is a steady or step-wise improvement in water quality over the 30-year implementation period of the Program. CALFED's strategy emphasizes voluntary, cooperative, incentive-based source control efforts.

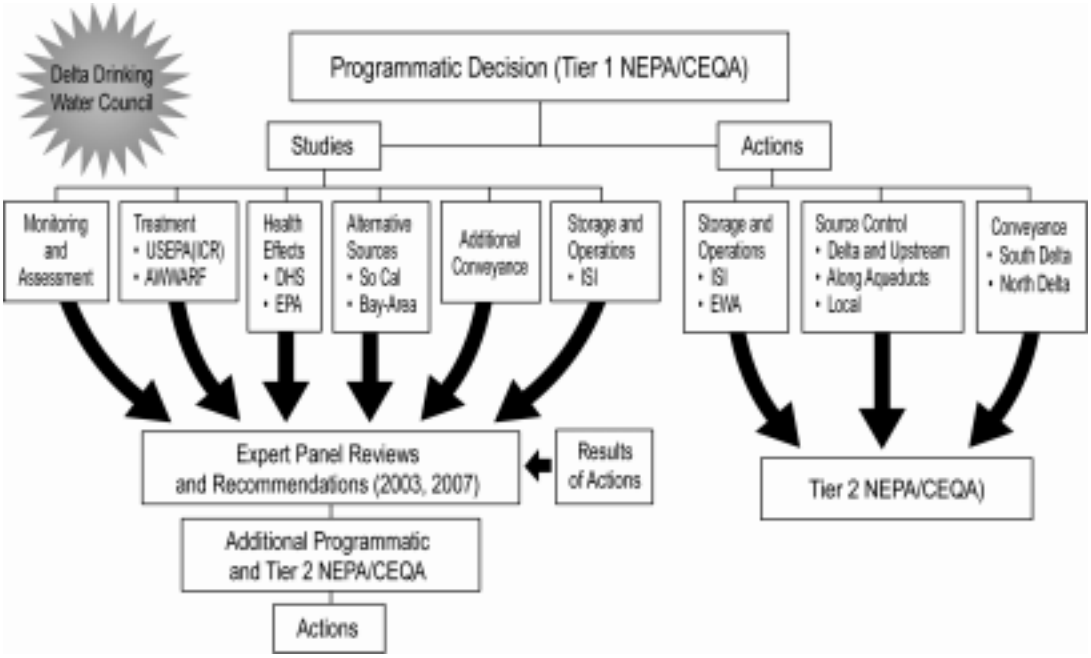
Success in achieving the CALFED water quality objective will depend upon close coordination and collaboration among CALFED, responsible State and Federal agencies, and local agencies and interests.

CALFED's primary water quality improvement strategies are for environmental water quality and drinking water quality. The environmental water quality goal is to provide water in the Bay-Delta system that is of sufficient quality to protect all ecological beneficial uses of the water. CALFED has identified several constituents of concern for which individual actions and studies have been proposed. These include:

- Low dissolved oxygen in the lower San Joaquin River
- Mercury in the Sacramento River, Cache Creek, the Delta and San Francisco Bay
- Pesticides from urban and agricultural uses
- Organochlorine compounds, like DDT and PCBs
- Selenium in the San Joaquin Valley, Delta and Suisun Bay
- Trace metals from mines, agriculture and urban areas
- Turbidity and sedimentation, predominantly in the upper watershed
- Toxicity of unknown origin, predominantly in the Delta

The CALFED drinking water quality objective is to continuously improve source water quality that allows municipal water suppliers to deliver safe, reliable, and affordable drinking water that meets and, where feasible, exceeds applicable drinking water standards. The strategy for improving drinking water quality is to reduce the loads and/or impacts of bromide, total organic carbon, salinity, pathogens, nutrients, and turbidity through a combination of measures that include source reduction, alternative sources of water, treatment, and storage and conveyance improvements. CALFED will develop and perform these actions and related studies under the scrutiny of the Delta Drinking Water Council, a public advisory group to be comprised of urban water agency, environmental, business, Delta and public health agency representatives. The

Drinking Water Quality Improvement Strategy



progress of the program in meeting its drinking water objectives will be reviewed by outside panels of technical experts in 2003 and 2007.

In addition to actions in the Water Quality Program, watershed activities, levee protection and maintenance, and water use efficiency measures can all contribute to the Water Quality Strategy.

Levee System Improvement Strategy

Delta levees are critical to the physical integrity of the Delta and the State's water system. Levees also protect Delta land uses, including agriculture and terrestrial habitat. Given the numerous public benefits protected by Delta levees, the focus of the CALFED strategy is to improve and maintain levee integrity. The principal program element to accomplish this will be the Long-term Levee Protection Plan. CALFED has developed a five-part strategy for Delta levees:

- Provide base-level funding to reconstruct all Delta levees to a particular standard.
- Provide funding for targeted special improvement projects that provide special public benefits.
- Control subsidence on Delta islands and coordinate research on this topic.
- Prepare emergency management plans so that response to disasters is quick and well coordinated.

- Perform risk assessment of all factors that can contribute to levee failure and the consequences of failure to Delta land uses, the ecosystem, water quality and water supply reliability, and implement appropriate risk management considering all available options.

CALFED is including the Suisun Marsh levee system in the Levee Program and is considering two options for marsh levees: inclusion of all the exterior Suisun Marsh levees, or protection of part of the levee system and restoration of some tidal wetlands in the marsh. A decision on these options will be made by mid-2000.

In addition to the Long-term Levee Protection Plan, the Levee Strategy has important linkages with ecosystem restoration, storage and conveyance actions. CALFED is working to reduce the conflict between protection of wildlife habitat that occurs on levees, and the maintenance of the levees to prevent their failure, seeking areas where these actions can be coordinated.

Water Management Strategy

The objective of the Water Management Strategy is to reduce the mismatch between Bay-Delta water supplies and current and projected beneficial uses dependent on the Bay-Delta system.

Goals to achieve this objective are:

- Increase the utility of available water supplies, making water suitable for more uses and reuses. Actions such as water conservation and water recycling increase the utility of water. Improving the quality of water also makes it suitable for more uses.

- Improve access to existing or new water supplies, in an economically efficient manner, for environmental, urban and agricultural beneficial uses. A properly regulated water transfers market is one way to improve access to existing supplies.

- Improve flexibility of managing water supply and demand in order to reduce conflicts between beneficial uses, improve access to water supplies, and decrease system vulnerability. The ability to shift the timing of Delta diversions is one way to increase flexibility.

CALFED has developed a menu of actions, or water management tools, that can be used to attain these goals. Some of these actions are ready for implementation in the near term, while others will require additional study. A long-term decision-making framework is being developed to guide selection of future actions.

The menu of tools encompasses many of the CALFED program elements. Primary tools include: agricultural, urban and wetland water conservation and water recycling actions in the Water Use Efficiency Program; Water Transfer Program; conveyance, including South Delta improvements; storage; and operational strategies such as real-time monitoring and diversion management. In addition, the Water Management Strategy will achieve benefits through the Watershed Program and the Water Quality Program.

Critical to the Water Management Strategy is an Economic Evaluation of Water Management Alternatives (EEWMA), which provides important economic information that can help define

potential opportunities for implementing water management tools. The initial evaluation shows how water demands shift with the cost of water, and arrays supply options by costs and yield. But while the EEWMA will provide guidance on the proper mix of tools and information on the relative effectiveness of these tools, it does not present the complete answer. The economic information must be supplemented by information about overall operational flexibility and socioeconomic and environmental impacts.

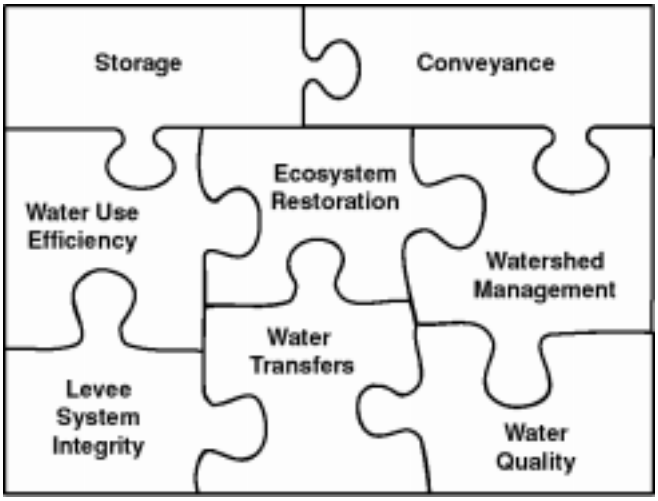
To evaluate the appropriate role of storage in the Water Management Strategy, CALFED has initiated the Integrated Storage Investigation (ISI). The ISI will evaluate the relationship between various types of storage and the utility of storage as part of the Water Management Strategy. The ISI also will analyze the proper mix of groundwater and surface storage facilities, evaluate re-operation of certain hydroelectric power reservoirs, and provide a comprehensive assessment and prioritization of critical fish migration barriers for modification or removal.

A serious problem in the Bay-Delta today is the conflict between fisheries and water diversions. A carefully planned Water Management Strategy can help overcome this conflict. An innovative application of the Water Management Strategy is an Environmental Water Account (EWA) to be implemented by CALFED. The EWA is based on the concept that flexible management of water could achieve fishery and environmental benefits more efficiently than a purely regulatory approach. The EWA will consist of assets, such as water, money, water storage and conveyance, that environmental water managers can use for the benefit of fish, just as traditional water managers now use such assets for the benefit of other water users.

The importance of a successful EWA program to the overall CALFED Water Management Strategy cannot be overemphasized. CALFED intends to develop the specific details of an EWA in the immediate future, so that the EWA can be operational at the beginning of Stage 1.

Program Elements

The CALFED resource management strategies are composed of actions drawn from eight program elements. While each program element is described individually, it should be understood that the actions are interrelated and must be carried out in coordination in order to resolve problems in the Bay-Delta system.



Levee System Integrity Program

The focus of the Levee System Integrity Program is to improve levee stability to benefit all users of Delta water and land. Actions to improve and maintain the levees will result in greater protection for water supply reliability and water quality.

Actions are based on the successes of existing programs. Levee protection actions provide base-level funding to reconstruct all Delta levees to a particular standard, and additional funding for special habitat improvement and levee stabilization projects. The program will also implement best management practices (BMPs) to control subsidence on levees; develop a risk assessment and management plan; establish an emergency management plan; and rehabilitate Suisun Marsh levees.

Water Quality Program

CALFED is committed to achieving continuous improvement in the quality of the waters of the Bay-Delta system for all beneficial uses and maintaining this quality once achieved. Improvements in water quality will result in improved ecosystem health, with indirect improvements in water supply reliability. Improvements in water quality also make water suitable for more uses. Some actions to achieve improvement can begin immediately; others will rely on comprehensive monitoring, pilot studies and research.

The Water Quality Program will focus on improving drinking water quality (bromide, salinity and total organic carbon) and reducing impacts from urban and agricultural pesticide use; trace metals; mercury; selenium; turbidity and sedimentation; low dissolved oxygen; and toxicity of unknown origin.

Ecosystem Restoration Program

The goal of the Ecosystem Restoration Program is to improve and increase aquatic and terrestrial habitats and improve ecological functions in the Bay-Delta system to support sustainable populations of diverse and valuable plant and animal species. Improvements in ecosystem health will reduce the conflict between environmental water use and other beneficial uses, and allow more flexibility in water management decisions.

The Program emphasizes the restoration of ecological processes in order to restore and maintain the diverse and vital habitats of the multiple plant and animal species in the Bay-Delta system. Representative actions include: restoring, protecting and managing diverse habitat types representative of the Bay-Delta system and its watershed; restoring critical instream flows; improving Delta outflow during key springtime periods; reconnecting Bay-Delta tributaries with their floodplains; developing prevention and control programs for invasive species; reducing or eliminating fish passage barriers; and performing research to provide information needed to define problems and to design and prioritize restoration actions.

Water Use Efficiency Program

The Water Use Efficiency Program includes actions to assure efficient use of existing and any new water supplies developed by the Program. It will build on the work of the existing Agricultural Water Management Council (AWMC) and California Urban Water Conservation Council (CUWCC) processes. Before the Record of Decision, CALFED will identify measurable goals and objectives for its urban and agricultural water conservation programs, water recycling programs and managed wetlands programs.

The Water Use Efficiency Program relies on appropriate conservation measures and government assistance to help users comply with the programs. Existing State and Federal programs will be expanded to provide increased levels of funding and technical assistance at the local level. CALFED will work with both the AWMC and CUWCC, and assist urban water suppliers to comply with the Urban Water Management Planning Act.

Water Transfer Program

The Water Transfer Program proposes a framework of actions, policies and processes that will facilitate water transfers and further develop a statewide water transfer market. The framework also includes mechanisms to provide protection from third-party impacts. Water transfers can improve water availability for all uses, including the environment.

Key components of this program include:

- Establish a California Water Transfers Information Clearinghouse to provide complete and accurate information about proposed transfers and facilitate assessment of potential third-party impacts.

- Streamline the approval process now used by agencies.

- Develop a process to identify transferable water, reservoir refill and carriage water criteria and costs for transporting water through State and Federal conveyance facilities.

- Improve the accessibility of State and Federal conveyance and storage facilities for the transport of approved water transfers.

- Identify appropriate assistance for groundwater protection programs.

- Establish new accounting, tracking and monitoring methods to aid instream flow transfers under California Water Code Section 1707.

The Watershed Program

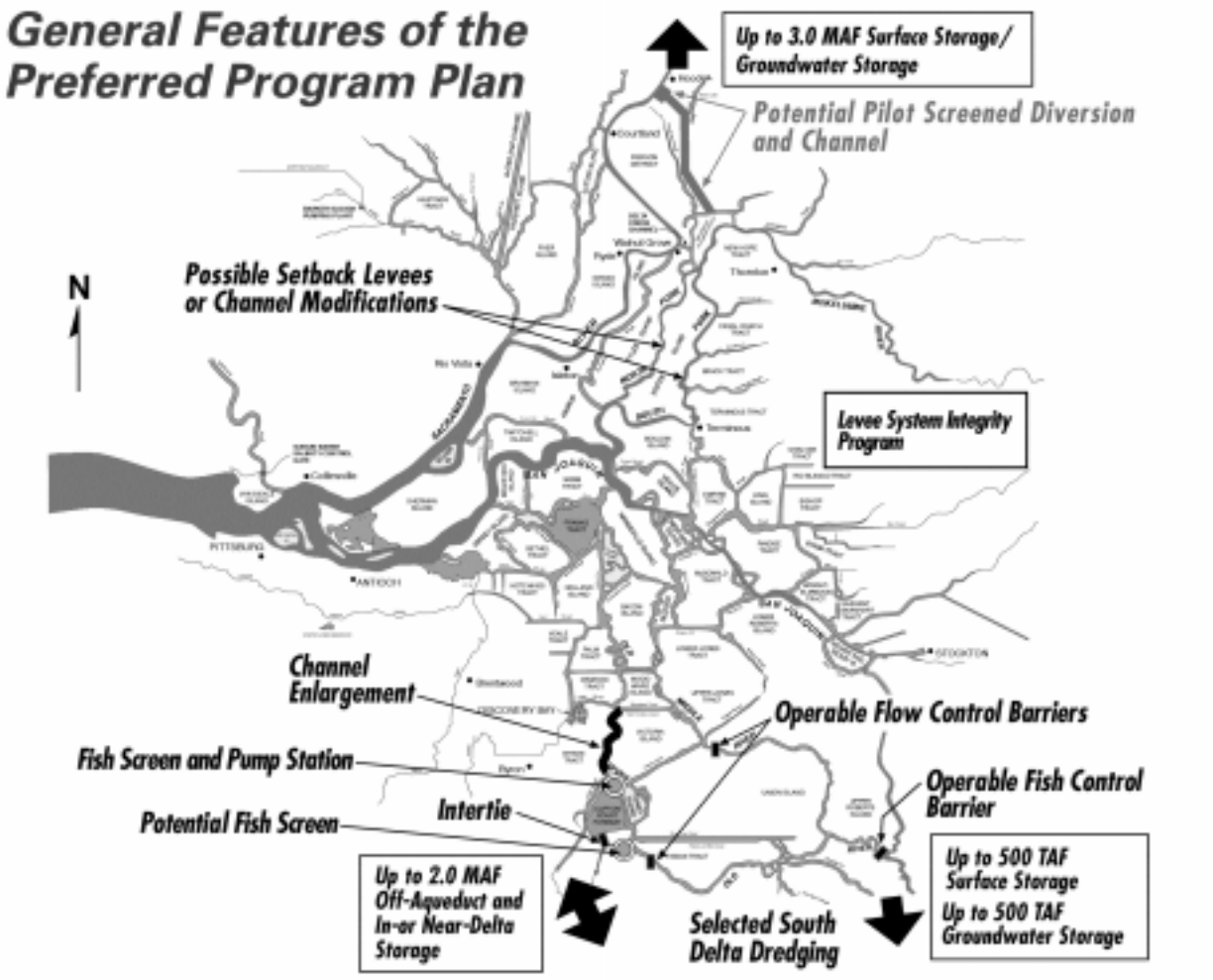
The Watershed Program will provide financial and technical assistance to local watershed efforts that benefit the Bay-Delta system. Watershed actions can improve water supply reliability, maintain levee integrity and improve water quality.

The Watershed Program will also facilitate and improve coordination and assistance among government agencies and other organizations and local watershed groups, support education and outreach at the local level, develop watershed monitoring and assessment protocols consistent with CALFED, and identify the watershed functions and processes that are relevant to the CALFED goals and objectives.

Storage

Both surface and groundwater storage can be used to improve water supply reliability, provide water for the environment when it is most needed, provide flows to maintain water quality and protect levees through coordinated operation with existing flood control reservoirs. Decisions to construct groundwater and/or surface water storage will be predicated upon complying with all program linkages, including:

- An assessment of groundwater storage, surface storage, re-operation of power facilities and a fish barrier assessment as part of the ISI.
- Demonstrated progress in meeting CALFED's water use efficiency, water recycling and water transfer program objectives.
- Implementation of groundwater monitoring and modeling programs.
- Compliance with all environmental review and permitting requirements.



Subject to these conditions, new groundwater and/or surface water storage will be developed and constructed, with aggressive implementation of water conservation, recycling and a protective water transfer market, as appropriate to meet CALFED Program goals. During Stage 1, CALFED will evaluate and determine the appropriate mix of surface water and groundwater storage, identify acceptable projects, and initiate permitting and construction if program linkages and conditions are satisfied.

The total volume of surface and groundwater storage being assessed ranges up to 6.0 million acre-feet, and facility locations being considered are located in the Sacramento and San Joaquin valleys, the Delta, and Southern California.

Conveyance

The Preferred Program Alternative employs a through-Delta approach to conveyance – continued use of the existing system with modifications and actions designed to achieve CALFED's goals. Modifications in Delta conveyance will result in improved water supply reliability, protection and improvement of Delta water quality, improvements in ecosystem health, and reduced risk of supply disruption due to catastrophic breaching of Delta levees.

Proposed actions include:

- A new screened intake at Clifton Court Forebay.
- Construction of either a new screened diversion at Tracy and/or an expansion of the new diversion at Clifton Court Forebay to meet the Tracy Pumping Plant export capacity.
- Implementation of the Joint Point of Diversion for the SWP and CVP, and construction of interties between the projects.
- Construction of an operable barrier at the head of Old River to improve conditions for salmon migrating up and down the San Joaquin River.
- Construction of operable barriers on the Old River and Middle River, taking into account fisheries, water quality and water stage needs in the South Delta.
- Changes to the SWP operating rules to allow export pumping up to the current physical capacity of the SWP export facilities.
- Study and evaluation of a screened diversion structure on the Sacramento River or equivalent water quality actions as a measure to improve drinking water quality in the event that the Water Quality Program measures do not result in adequate improvements toward the CALFED drinking water quality goals.
- If the Water Quality Program measures are consistently not achieving drinking water quality goals, and the evaluation demonstrates that a screened diversion of up to 4000 cfs would help achieve those goals without adversely affecting fish populations, a pilot screened diversion would be constructed. Following evaluation of the pilot facility, a final decision would be

made on whether the diversion channel and construction should continue to be used and, if so, what the operational rules and optimum size of the diversion should be.

- Construct new setback levees, dredge and/or improve existing levees along the channels of the lower Mokelumne River.

The Preferred Program Alternative also includes a process for determining the conditions under which any additional conveyance facilities and/or other water management actions would be taken in the future. The process would include:

- An evaluation of how drinking water suppliers can best provide a level of public health protection equivalent to Delta source water quality of 50 ppb (parts per billion) bromide and 3 ppm (parts per million) total organic carbon.

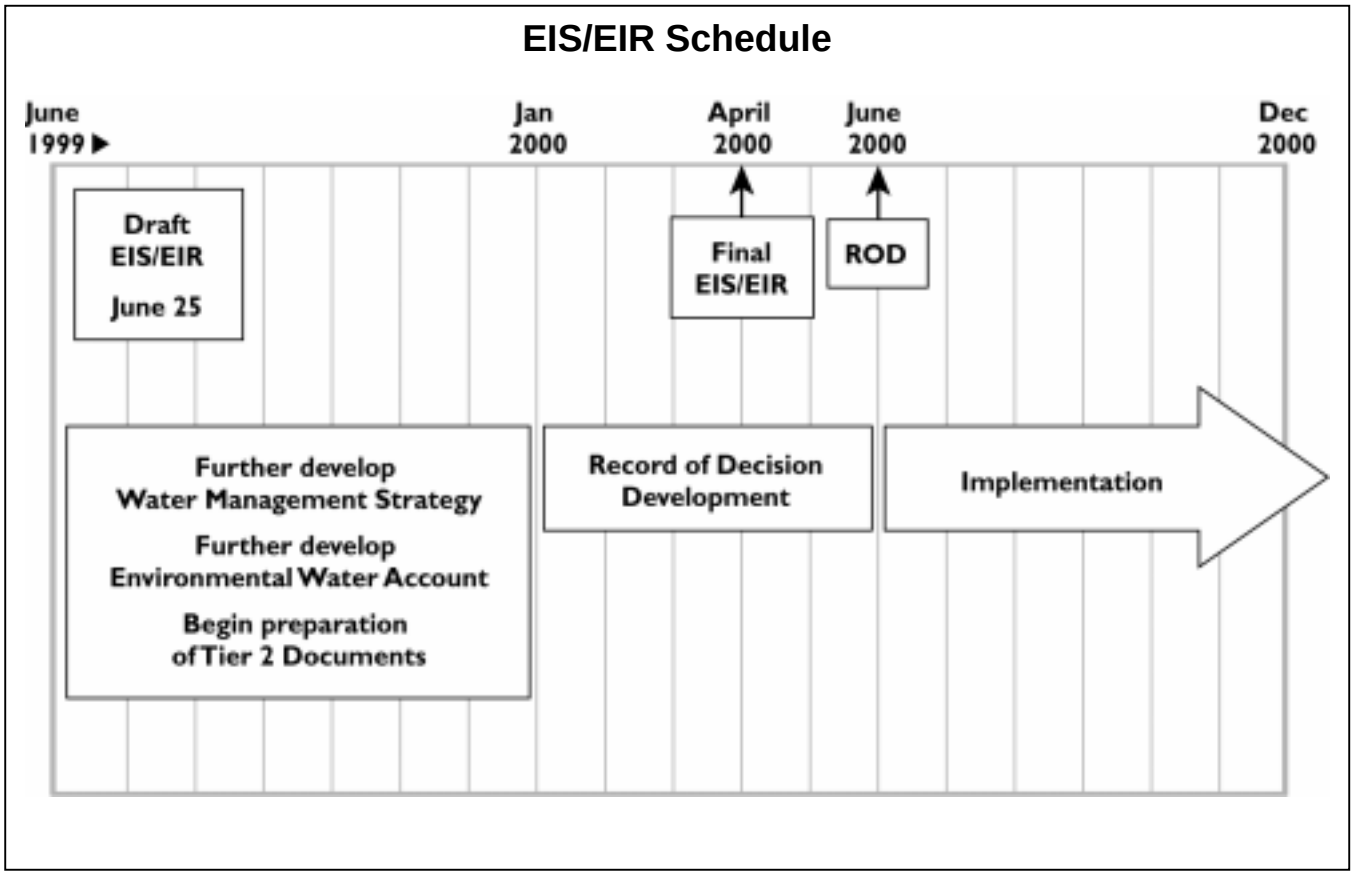
- An evaluation based on the reports of two independent expert panels – one on CALFED's progress toward these measurable water quality goals and the second on CALFED's progress toward ecosystem restoration objectives, with emphasis on fisheries recovery.

Program Implementation

With the Federal Record of Decision (ROD) and State Certification of the Final Programmatic EIS/EIR, expected in mid-2000, Phase III of the CALFED Program will begin – implementation of the Preferred Program Alternative. Phase III is expected to last 30 years or more. An implementation plan will guide this phase of the Program. The plan focuses on the early years of implementation (Stage 1), but also reflects a long-term vision for continuing implementation over the next several decades.

Adaptive management is an essential program concept. It is necessary to constantly monitor the system and adapt actions that are taken to restore ecological health and improve water management. Thus, most Program goals will remain constant during implementation, but actions to achieve the goals may be adapted as more is learned about the Bay-Delta system and the effects of Program actions.

The implementation plan is a work in progress; it cannot be completed until the final programmatic EIS/EIR is finished and the "decision" is defined. The implementation plan consists of several parts, outlined below.



Stage 1 Actions

Stage 1 is defined as the seven year period commencing with the final decision on the Programmatic EIS/EIR. Agreement on Stage 1 actions is only one part of the decision for a Preferred Program Alternative, but it is important that these actions achieve balanced benefits and lay a solid foundation for successful implementation of the program.

Detail on the potential list of Stage 1 actions is provided in CALFED's multi-volume Draft Programmatic EIS/EIR. To the extent that such actions require additional authorizing legislation, such authorization will be developed and pursued in cooperation with stakeholders.

Near-Term (Stage 1A) Actions

Proposed actions to be initiated in the first two years of program implementation can be planned in greater detail than later actions. With extensive input from CALFED agencies and stakeholders, CALFED is grouping high priority Stage 1 actions into a series of "bundles" to provide regional and programmatic balance. Many bundles highlight certain critical ongoing programs that will require implementation decisions in the near future.

Lower San Joaquin River and South Delta Region Bundle – Designed to address water management and fisheries concerns in the South Delta and lower San Joaquin River region, for local water uses as well as State and Federal exports.

Lower Sacramento River, North Delta Bundle – Designed to develop a balanced solution to concerns surrounding fishery and water quality impacts of diversions from the Sacramento River into the Central Delta, to address regional flood concerns, and to substantially enhance riparian and wetlands habitat corridors in the region.

Yolo Bypass, Suisun Marsh, and West Delta Bundle – Addresses water quality, fisheries protection and habitat enhancement actions for the West Delta region, including Suisun Marsh, the West Delta islands, and the Yolo Bypass.

Delta-Wide ERP/Levees Bundle – Designed to achieve a reasonable balance between implementation of ecosystem improvement actions and levee system improvement actions.

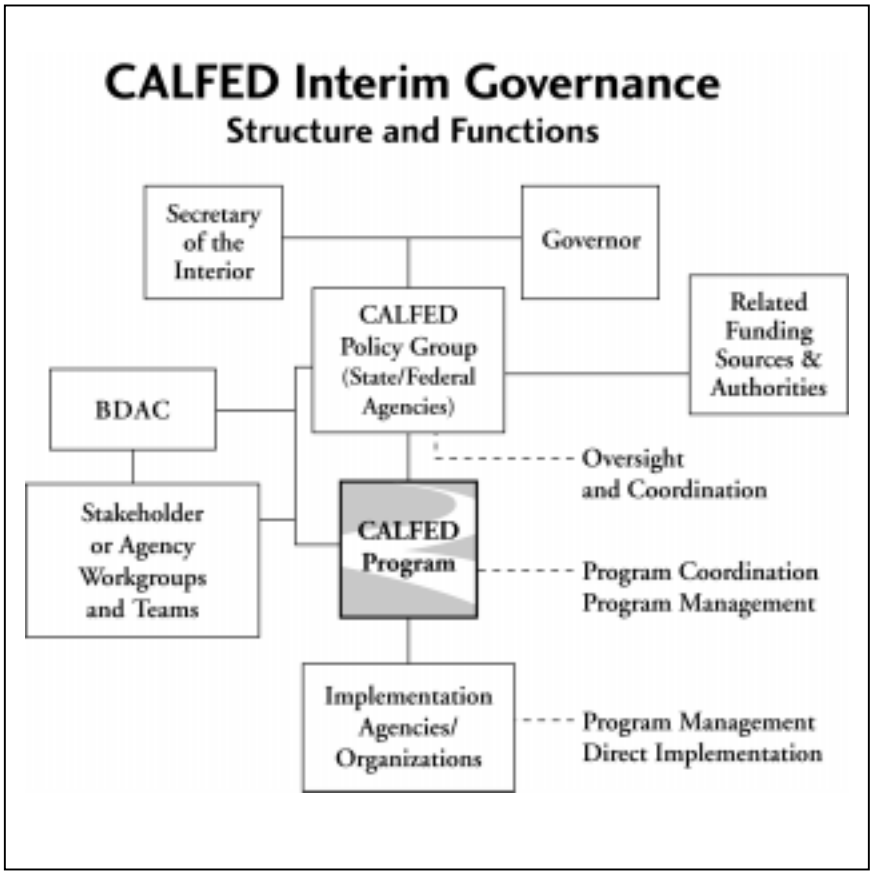
Sacramento River, San Joaquin River and Tributaries Bundle – Includes ecosystem restoration, primarily fisheries habitat, hatchery management, and floodplain and meander belt restoration along key river reaches.

Integrated Water Management Bundle – Actions that can lead to improvements in water supply reliability and flexibility through improvements in water use efficiency, water transfers, water storage and conveyance facilities, water quality and water-associated habitat. It includes the Integrated Storage Investigation and the Environmental Water Account.

Governance Bundle – Addresses organizational issues to assure that orderly implementation of Program actions can occur, including the potential formation of a CALFED management entity and ERP implementation entity.

Governance Plan

The governance and decision-making structure for implementation of the CALFED Preferred Alternative is a key feature in assuring successful program implementation. While the long-term structure is being established, an interim governance structure will be put in place. CALFED proposes the continuation of the current structure with some modifications. The interim structure will be in place only as long as it takes to establish a long-term structure. There would be no new legislation or changes in existing legal authorities with the interim governance structure.



Proposed guiding principles for the governance structure are:

- State and Federal partnership
- Stakeholder involvement in decision-making
- Involvement by elected officials
- No impairment of existing agency regulatory authority
- Efficient decision-making
- Durability of agreements and decisions
- Accountability for agreements and decisions

Functions of the Program governance structure can be divided into three categories:

Oversight – The oversight entity will be the primary point of accountability for program implementation and for achieving program objectives to ensure balance and coordination among the program strategies, elements and objectives, and to provide program direction.

Program Coordination and Management – Includes managing and overseeing program element implementation, identifying priorities, proposing actions, and developing budgets;

assessing program element performance; and coordinating with implementation agencies and stakeholders, and among program elements.

Direct Implementation of Program Elements – Different agencies may direct program elements. Implementation functions include responsibility for direct implementation; reporting on assessment and monitoring of individual programs and actions; preparing environmental documentation and obtaining permits; and coordinating with stakeholders and local communities.

Finance Plan

A final finance plan will be complete by the Record of Decision. A fundamental philosophy of the CALFED Program is that the beneficiaries of the program actions should pay costs, to the extent possible. During the planning phase of the program, CALFED has relied on State and Federal appropriations. For the implementation phase, CALFED must explore other funding sources, such as new bonds, user fees, private financing and cost-sharing.

Preliminary Stage 1 cost estimates are approximately $5.1 billion. Because of the programmatic nature of the CALFED plan and the adaptive management approach, long-term cost estimates are quite difficult to make.

Estimated CALFED Stage 1 Costs[1]
($ in millions)

Program Area	Total Cost
Ecosystem Restoration[2]	$910
Water Use Efficiency/Recycling	$2,000
Water Transfers[3]	$6
Watershed Management	$210
Water Quality	$250
Levees	$264
Storage[4]	$370
Conveyance[5]	$913
Monitoring[6]	$246
TOTAL	**$5169**

Notes:
[1] Preliminary; current year dollars based on staff estimates. Total costs assume contributions from State, Federal, and User/Private funding.

[2] Total cost could be payed for by Prop. 204 (State), Federal Bay-Delta appropriation and CVPIA water and energy funds (Federal), and CVPIA Restoration Fund (User).

[3] No major capital investments are necessary for this program.

[4] Includes South of Delta groundwater and North of Delta groundwater ($300 million). Integrated Storage Investigation and related planning and feasibility work ($70 million).

[5] Includes South Delta Improvements ($671 million), North Delta Improvements ($220 million), conveyance studies ($22 million).

[6] Assumes monitoring and assessment costs are 5% of total program costs (in addition to costs of existing science programs).

Restoration Coordination

The 1994 Bay-Delta Accord included a commitment to develop and fund non-flow related ecosystem restoration activities to improve the health of the Bay-Delta ecosystem. This is commonly referred to as "Category III." Actions funded under this program are selected for their benefits to the system, regardless of the final configuration of the Preferred Program Alternative. The project selection process includes extensive stakeholder input. To date, the Restoration Coordination Program has received more than 800 proposals and has funded 195 projects for a total of approximately $228 million. Types of projects have included fish screens, fish ladders, land acquisition, habitat restoration and focused research and monitoring. Funding sources include contributions from the California Urban Water Agencies, Proposition 204 State bond funds and funding from the Federal Bay-Delta Act and EPA watershed funding.

Comprehensive Monitoring, Assessment and Research Program (CMARP)

Adaptive management is essential to implementation of the CALFED Bay-Delta Program. Because knowledge about how the ecosystem functions is incomplete, monitoring, focused research, and staged implementation based on information gained are all central to the process. CMARP is being developed to meet these needs. CMARP will help provide the information and scientific interpretations necessary for program implementation and for the public to judge the Program's success.

CMARP will provide information on all of the CALFED Program elements, and will contribute to the design of any mitigation efforts.

Multi-species Conservation Strategy

CALFED is developing a Multi-species Conservation Strategy (MSCS) with a two-fold purpose, both biological and regulatory. First, the MSCS builds on the CALFED Ecosystem Restoration Program and creates mechanisms designed to ensure that CALFED achieves specific goals for species and habitats. Second, the MSCS provides a framework for compliance with the Federal and State Endangered Species Acts and the California Natural Community Conservation Planning Act.

The MSCS evaluates 243 plant and animal species that occur in the Bay-Delta system, and habitat types that are important to them. The MSCS sets goals that include the recovery of certain species, contribution to the recovery of others, and maintenance of still other species. Other MSCS goals focus on the restoration and maintenance of important habitats. The MSCS specifies two types of conservation measures: those necessary to avoid, minimize, or compensate for impacts of Program actions, and actions not included in the CALFED Program that may be needed to ensure the achievement of species or habitat goals.

The MSCS will also serve to assure that the CALFED Program as a whole, and individual CALFED Program actions will be implemented in compliance with the State and Federal endangered species laws. Regulatory agencies will use biological information from the MSCS to prepare programmatic biological opinions. These biological opinions will serve as the springboard for streamlined regulatory compliance allowing entities implementing CALFED actions to comply with endangered species laws and efficiently obtain any required take authorizations.

Getting More Information

Information on CALFED is available from several sources. The CALFED website provides current information, background, and several Program documents. The website address is http://calfed.ca.gov.

In June 1999 CALFED released a draft Programmatic Environmental Impact Statement/Environmental Impact Report (EIS/EIR) that includes a main environmental document and many appendices that describe program elements and other program features. The following volumes are available free of charge:

- Compact disk containing all volumes of the Draft Programmatic EIS/EIR. Software required to view the documents is free and included with instructions on the CD.
- Revised Phase II Report providing an overview of the CALFED Program, the Preferred Program Alternative, and Program implementation (200 pages)
- EIS/EIR Main Document covering impact analysis (1200 pages)
- Executive Summary of Main Document (30 pages)
- Implementation Plan (150 pages)
- Ecosystem Restoration Program Plan in 4 volumes (1230 pages)
- Levee System Integrity Program Plan (500 pages)
- Water Quality Program Plan (300 pages)
- Water Use Efficiency Program Plan (190 pages)
- Water Transfers Program Plan (100 pages)
- Watershed Program Plan (100 pages)
- Multi-species Conservation Strategy (500 pages)
- Comprehensive Monitoring, Assessment and Research Program Report (150 pages)

Glossary

AF Abbreviation for acre-feet; the volume of water that would cover 1 acre to a depth of 1 foot, or 325,851 gallons of water. On average, could supply one-two households with water for a year. A flow of 1 cubic foot per second (cfs) for a day is approximately 2 AF.

Alternative A collection of actions or action categories assembled to provide a comprehensive solution to problems in the Bay-Delta system.

Central Valley Project (CVP) Federally operated water management and conveyance system that provides water to agricultural, urban, and industrial users in California. The CVP was originally authorized by legislation in 1937.

Clifton Court Forebay The in-Delta storage used to regulate flows to the Banks Pumping Plant, part of the State Water Project.

Conveyance A pipeline, canal, natural channel or other similar facility that transports water from one location to another.

Delta Inflow The combined water flow entering the Delta at a given time from the Sacramento River, San Joaquin River, and other tributaries.

Delta Outflow The net amount of water (not including tidal flows) at a given time flowing out of the Delta towards the San Francisco Bay. The Delta outflow equals Delta inflow minus the water used within the Delta and the exports from the Delta.

Demand Management Programs that seek to reduce demand for water through conservation, rate incentives, drought rationing, and other activities.

Diversions The action of taking water out of a river system or changing the flow of water in a system for use in another location.

Environmental Water Account (EWA) A method of accounting for the water and financial assets that can be managed to provide additional protections for fishery resources beyond prescriptive standards.

Fish Screens Physical structures placed at water diversion facilities to keep fish from getting pulled into the facility and dying there.

Old River A natural channel in the southern Delta. The channel merges with many other channels in the south Delta, passes by the south Delta export facilities and connects with the San Joaquin River at its upstream end. Much of the water approaching the export facilities flows up Old River from the central Delta. Potential improvements to the channel include a fish barrier at its upstream end to keep migrating fish in the San Joaquin River and dredging north of Clifton Court Forebay to allow more efficient flow to the export facilities.

Program Element The program elements for the Phase II Alternatives include an element for Delta conveyance, a element for storage, and the six common program elements (Water Use Efficiency, Water Quality, Levee System Integrity, Ecosystem Restoration, Water Transfers, and Watershed Management).

Real-Time Monitoring and Operations Continuous observation in multiple locations of biological conditions on site in order to improve management to protect fish species and allow optimal operation of the water supply system. This is an essential feature to allow flexible operations of the export pumps.

Riparian The land adjacent to a natural water course such as a river or stream. Often supports vegetation that provides important wildlife habitat, and important fish habitat values when growing large enough to overhang the bank.

Setback Levee A constructed embankment to prevent flooding that is positioned some distance from the edge of the river or channel. Setback levees allow wildlife habitat to develop between the levee and the river or stream.

State Water Project (SWP) A California State water storage and conveyance system that pumps water from the Delta for agricultural, urban domestic, and industrial purposes. The SWP was authorized by legislation in 1951.

Tracy Pumping Plant The CVP export pumping plant in the south Delta.

Watershed An area that drains to a particular channel or river, usually bounded peripherally by a natural divide of some kind such as a hill, ridge, or mountain.